



WASHINGTON STATE LEGISLATURE
Office of the State Actuary

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TO: Steve Nelsen, Executive Director
LEOFF 2 Retirement Board

FROM: Marty McCaulay, FSA, EA, MAAA, Senior Pension Actuary *PM*
Office of the State Actuary

CC: Matt Smith, FCA, EA, MAAA, State Actuary
Office of the State Actuary

RE: LEOFF 2 DUTY-RELATED TOTAL DISABILITY BENEFITS

This memo presents the results of pricing the proposed total disability benefit. This benefit will be provided to those determined to be totally disabled while in the line of duty. The proposed benefit will provide 70 percent of the member's final average salary (FAS), but will be offset by any disability payments from sources such as the Social Security Administration (SSA) or the Department of Labor and Industries (L&I), including time-loss benefits so that the sum of all of the benefits does not exceed 100 percent of the member's FAS.

Cost Summary

Below is a summary of contribution rate increases for this proposal:

Increase in Contribution Rates:	
(Effective 9/1/2006)	
Current Members	
Employee	0.02%
Employer	0.01%
State	0.01%
2007-2009 Costs	
(In Millions)	
Employee	\$0.6
Employer	\$0.4
State	\$0.2

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Members Impacted

A LEOFF 2 member will be considered totally disabled if his or her disability occurs in the line of duty and he or she is unable to perform any substantial gainful activity due to a physical or mental condition that may be expected to result in death or that has lasted or is expected to last at least twelve months. Substantial gainful activity is defined as average earnings of more than \$810 per month in 2004 and indexed to inflation.

Any of the 14,754 active members as of September 30, 2004, could potentially be affected by this proposal. In addition, all future active members could be impacted. As of September 30, 2004, the average active member in LEOFF 2 earns \$69,098 per year and has 11.3 years of membership service. According to current LEOFF 2 plan provisions, a typical member who is disabled in the line of duty is entitled to a benefit that is not actuarially reduced from the normal retirement age of 53 on account of early commencement. For example, if a typical member goes out on a duty-disability, he or she could expect to receive approximately $\$69,098 \times 2\% \times 11.3 = \$15,616^*$ per year in benefits during the first year.

Under the current proposal, the same member, if totally disabled, could expect an annual benefit of around $\$69,098 \times 70\% = \$48,369^*$, without offsets. With offsets, this total disability recipient might receive benefits as follows:

Benefit Source	Annual Benefit*	Percent of Benefit
L&I Offset only	\$40,768	59%
LEOFF 2	\$28,330	41%
Total	\$69,098	100%
L&I and SSA Offsets	\$55,278	80%
LEOFF 2**	\$13,820	20%
Total	\$69,098	100%

** Benefit formulas in examples above use salary rather than FAS as the basis for benefit amount. This is for illustrative purposes only.*

***Twenty percent benefit is tax-free and is more valuable than the taxed 22 percent benefit of \$15,616. See assumptions section.*

Of the 59 duty-related disabilities we expect each year (total and occupational), we assume that 18 percent, or about 11, will be totally disabled under the definition above.

Costs

The proposal will impact the actuarial funding of LEOFF 2 by increasing the present value of benefits payable under the plan and the required actuarial contribution rate as shown below:

\$ in Millions	Current	Increase*	Total
Increase in Present Value of Fully Projected Benefits	\$4,800	\$5	\$4,805
Increase in Unfunded Present Value of Credited Projected Benefits	(\$426)	\$2	(\$424)

**After assumption change.*

Increase in Contribution Rates: (Effective 9/1/2006)	
Current Members	
Employee	0.02%
Employer	0.01%
State	0.01%
New Entrants*	
Employee	0.03%
Employer/State	0.03%

**Rate change applied to future new entrant payroll and used for fiscal budget determinations only. A single supplemental rate increase, equal to the increase for current members, would apply initially for all members or employers.*

As a result of the higher required contribution rate, the increase in funding expenditures is projected to be:

Total Disability - Projected Costs	
Costs (in Millions)	
2006-2007	
State:	
General Fund	\$0.1
Non-General Fund	<u>\$0.0</u>
Total State	\$0.1
Local Government	\$0.1
Total Employer	\$0.2
Total Employee	\$0.2
2007-2009	
State:	
General Fund	\$0.2
Non-General Fund	<u>\$0.0</u>
Total State	\$0.2
Local Government	\$0.4
Total Employer	\$0.6
Total Employee	\$0.6
2006-2031	
State:	
General Fund	\$7.8
Non-General Fund	<u>\$0.0</u>
Total State	\$7.8
Local Government	\$10.6
Total Employer	\$18.4
Total Employee	<u>\$18.4</u>

Assumptions

The Department of Labor and Industries (L&I) pays its disability recipients 60 to 75 percent of salary, depending on marital status and number of minor dependents up to an indexed maximum salary of 120 percent of Washington state's average wage. The 2004 state average wage was \$38,794 and 120 percent of this salary is \$46,553. For each active member, we compared 60 percent of their annual salary to this maximum value and chose the lesser of the two. The resulting 60 percent salary figure with cap was \$40,954, which is 59 percent of the average LEOFF 2 annual salary. To adjust for the L&I maximum limit, we assumed members disabled under this proposal would receive 59 percent of FAS based on the 2004 pay for LEOFF 2 active members.

The Social Security Administration also provides disability benefits for those members whose employers participate. We assume that for a typical member who is covered by Social Security, disability benefits paid by SSA would be approximately 30 percent of salary, or for our average LEOFF 2 member, \$20,729 per year. According to the SSA website, most disability claims are processed within about three months. We assume for pricing purposes that the Social Security offset is effective immediately.

In his presentation to the LEOFF 2 Retirement Board on September 28, 2005, Shawn Merchant reported that 58.53 percent of law enforcement officers and 6.48 percent of firefighters in Washington state contribute to Social Security. Using this information, we assumed that as of September 30, 2004, 55 percent of the 8,533 active law enforcement officers are covered by Social Security. Similarly, we used a 5 percent assumption of Social Security coverage for the 6,221 active fire fighters.

According to the Labor and Industries' web site, disability benefits for L&I are offset by Social Security disability benefits in such a way that the sum of L&I benefits and SSA benefits may not exceed 80 percent of the member's salary at disablement. Therefore, we assumed that time-loss and permanent L&I benefits, plus Social Security benefits represent 80 percent of FAS for those members totally disabled in the line of duty who are covered by Social Security. With a maximum of 100 percent of FAS, this would provide a maximum benefit of 20 percent of FAS from LEOFF 2 for these members.

Members who receive permanent L&I total disability benefits do not necessarily receive these benefits immediately. In some cases, it can take years for L&I to make a final determination about eligibility. However, employees injured on the job are entitled to time-loss benefits that begin after the employee has missed three days of work. These time-loss benefits are structured in the same way as the permanent total disability benefits, paying 60-75 percent of salary, subject to the same maximum amount and linked to the number of dependents. Therefore, we assume that for members not covered by Social Security, all offsets combined, namely temporary and permanent L&I benefits, equal 59 percent of FAS as described above, with no waiting period. With a maximum of 100 percent of FAS, this would provide a maximum benefit of 41 percent of FAS from LEOFF 2.

We also assume that the member will elect the better of the taxed unreduced duty-disability benefit and this proposed tax-free total disability benefit with offsets. We used a 15 percent tax rate in making this comparison, regardless of the size of the taxed benefit. We assume that, on average, members with only an L&I offset would receive a 59 percent total offset, or a 41 percent tax-free benefit. Therefore, members with 41 percent/85 percent/2 percent = 24 or more years of service would benefit more from the unreduced occupational disability benefit than from a tax-free total disability benefit with offsets.. In other words, a member would choose a taxable benefit of 48 percent over a tax-free benefit of 41 percent and would choose a tax-free benefit of 41 percent over a taxable benefit of less than 48 percent. This assumption slightly reduced the cost.

We assume that 18 percent of all duty-related disabilities will be total disabilities. For the total disability benefit, we changed our disability assumption to use rates based on the disability rates used by the Colorado Fire and Police Pension Association Death and Disability Fund for their January 1, 2004, valuation prepared by Mellon. We assume that the probability that a disability is duty related decreases with age.

Age	Disability Rate	Duty Related Probability	Totally Disabled
20	0.001011	0.9500	0.18
25	0.001138	0.9247	0.18
30	0.001280	0.9000	0.18
35	0.001780	0.8746	0.18
40	0.002473	0.8500	0.18
45	0.003366	0.8000	0.18
50	0.011830	0.7500	0.18

For example, a 40-year-old member has a 0.2473 percent chance of becoming disabled in a year (about one out of 400). Furthermore, there is an 85 percent chance the disability would be duty related and an 18 percent chance it would be a total disability.

We considered but did not include any assumptions about the possibility of a member recovering from total disability status and returning to active duty. While the proposal allows for this possibility, any reduction in liabilities resulting from this inclusion would not be material.

We also considered but did not include an assumption about liability increases that might occur if these totally disabled members choose a joint and survivor option. The factors used to reduce benefits for the selection of these options are considered actuarially equivalent to a single life benefit if the member making the selection is healthy. Mortality rates are slightly higher for disabled members. Therefore this possibility could increase costs, but as with recovery, the change would not be material.

All other assumptions are consistent with the assumptions disclosed in the 2004 LEOFF 2 Actuarial Valuation Report.